

WHAT'S POWER GOT TO DO WITH IT?
LINGUISTIC DIFFERENCES AND DETECTION OF TEXT MESSAGE
WHITE LIES AS A FUNCTION OF POWER

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White Lies as a Function of Power

Computer-mediated communication (CMC) has become a prevalent way for teens and young adults to communicate (Lenhart, 2012). One form of CMC that this population uses quite often is communication through cell phones via text messages (Lenhart, 2012). Deception researchers have begun incorporating CMC into deception research because of the prevalence of deception within these modalities (George & Robb, 2008). This branch of deception research has examined both linguistic differences between deceptive and non-deceptive CMC messages (Hancock, Thom-Santelli, & Richie, 2004; Newman, Pennebaker, Berry, & Richards, 2003), as well as the actual deception detection of these CMC messages (Boyle, Kacmar, & George, 2008). One type of deception that has received relatively little attention is the form of deception called white lies, which are usually viewed as “small” lies and are normally intended to help the receiver of the lie rather than hurt him or her (DePaulo & Kashy, 1998).

Specifically, linguistic differences between white lies and truthful text messages, and the influence of power on these linguistic differences, have not empirically been tested. Therefore, the first goal of this research is to determine if the same linguistic differences shown in other forms of deception are also present in white lie deception and whether power plays one role in these linguistic differences. Additionally, the actual detection of white lies and the possible role of power in this process, have also not been studied. Thus, the second goal of this research is to determine whether white lie deception is more readily detected than other forms of deception, and whether power plays a role in this process.

Literature Review

Deceptive Communication

Numerous studies suggest that people lie multiple times a day in many different situations (DePaulo & Kashy, 1998; DePaulo, Kashy, Kirkendol, Wyer, & Epstein, 1996). Researchers have studied deceptive communication for many years and have learned a great deal about this form of communication (DePaulo & Kashy 1998; Hancock et al., 2004; Knapp, Hart, & Dennis, 1974). An early seminal examination of deceptive communication by Knapp et al. (1974) laid some of the groundwork for subsequent deception research. Participants (veterans) completed multiple measures in phase one of data collection. Some of the items in these measures asked about the participants' stance regarding the extension of educational benefits to Veterans. Then in a subsequent phase, the researchers videotaped responses of the participants to the educational benefits for Veterans prompt. For this phase, some participants were told to speak in support of their views, whereas others were told to speak against their view. Hence, the researchers set up deceptive and truth-telling conditions. Coders then watched the videos and read the transcripts of the interviews. They coded for both nonverbal (eye contact, gestures, etc.) and verbal behaviors (factual assertions, self-experience references, etc.).

Multiple significant differences were found between deceivers and truth-tellers. For example, deceivers were more uncertain, vague, and nervous. These constructs were based on verbal and nonverbal behaviors, as well as the kinds of words that were used by deceivers compared to truth-tellers (Knapp et al., 1974). However, it should be cautioned that the operational definitions of what made something deceptive and non-deceptive were somewhat unclear. Additionally, the authors reported that 26 out of 32 variables were in the direction as predicted (i.e., deceivers will display more uncertainty, vagueness, nervousness, reticence,

dependence, unpleasantness, etc. than non-deceivers). This research was the first study to examine how the words people use can be used to categorize someone as deceptive or non-deceptive. Much of the work that is currently being conducted by deception researchers finds some of its lineage with seminal research like this study.

Researchers also have studied deception within different communication modalities. Some diary studies (i.e., studies where participants record information throughout their day for a set amount of time then report their interactions to the researchers) have been conducted comparing face-to-face (F2F), phone, IM, and email modalities. Across these studies approximately 1 out of 5 interactions involved deception (George & Robb, 2008; Hancock et al., 2004). Interestingly, the highest frequency of lying takes place in F2F interactions (Hancock et al., 2004). Some of the studies also found that typically these lies are “little” lies or in other words, white lies (DePaulo & Kashy, 1998; DePaulo et al., 1996). An example of a little lie or white lie could be when people want to make their stories sound a little more exciting, thus they embellish a little bit. This is a linguistic way of adding some flavor to a story. In the scheme of everyday life, these little lies are commonplace (DePaulo & Kashy, 1998).

The emphasis of this section concerns linguistic differences associated with deceptive versus truthful CMC. For example, numerous studies have used the Linguistic Inquiry and Word Count (i.e., LIWC; Pennebaker, Booth, Boyd, & Francis, 2015) software program to determine linguistic differences between deceptive and truthful CMC (Hancock et al., 2004; Newman, Pennebaker, Berry, & Richards, 2003; Toma & Hancock, 2012; Van Swol, Braun, & Malhotra, 2012; Zhou, Burgoon, Nunmaker, & Twitchell, 2004). Some of these studies have demonstrated that people engaging in deceptive CMC tend to use fewer self-references (Toma & Hancock, 2012; Zhou et al., 2004) and fewer first-person singular pronouns (Newman et al., 2003;

Hancock et al., 2008) than those who are not deceptive. Some authors posited that people used fewer self-references and fewer first-person singular pronouns in order to distance themselves psychologically from the deception (Toma & Hancock, 2012). Conversely, unexpected results were found in one study where liars did not use fewer first-person singular pronouns (Van Swol et al., 2012). When conflicting results were found (e.g., compared to other research on linguistic differences in deceptive communication), the authors speculated that perhaps the paradigm used in the manipulation did not elicit a strong difference for lying.

Likewise, liars are more likely to use group references in email communication than in paper and pencil communication (Zhou et al., 2004). Deceptive individuals who used CMC are also more likely to use more words overall than people who are not being deceptive (Hancock et al., 2008; Zhou et al., 2004). In addition, liars communicating via CMC tend to use more verbs overall (Zhou et al., 2004), specifically more motion (Newman et al., 2003) and modal (i.e., could, should, might, etc.; Zhou et al., 2004) verbs than truthful people. A negative slant to deceptive CMC also seems apparent because liars tend to use more negations (Toma & Hancock, 2012) and more negative emotion words (Newman et al., 2003) than non-liars. The linguistic differences of the modalities presented here, specifically IM and email are closely related to text messaging in the sense that all of these modalities are text-based.

Deception Detection

While the linguistics of deceptive communication is important, so too is the actual detection of deception. Deception detection research has been conducted using various paradigms, contexts, and populations of participants. One area of deception detection research has focused on the motivation to deceive and how this motivation in turn effects deception detection. Blair, Levine, and Shaw (2010) presented nine studies where participants were

motivated to lie well. Other participants were then asked to rate the motivated liars on how deceptive they were. These human raters then were given the context of the lie. The premise was that if people heard or witnessed lies and they had background knowledge of the lie's intent and meaning, then these human raters would be better able to detect deception (Blair et al., 2010). Within these studies, the deception detection accuracy was above the typical chance-level found in most deception detection literature. Therefore, on the surface, this research seems to provide compelling evidence in support of people's ability to detect deception, at least in certain contexts. However, as the authors note, over four hundred deception detection studies have been conducted, yet very few have found participants to be better than chance at detecting deception. Additionally, it should be noted that the difference between the chance-level found in numerous studies and the pooled results from these nine studies was not significant (Blair et al., 2010). Therefore, the conclusions drawn from these nine studies should be regarded as tenuous at best.

In contrast to Blair et al. (2010), DePaulo et al. (1988) provided evidence to support the notion that people are not able to detect deception, even when the liars are motivated. DePaulo et al. (1988) showed that motivated liars try to control some of their behaviors. The authors hypothesized that participants' nonverbal deceptive behaviors would be readily detected. The researchers ostensibly paired participants with partners. The participants then gave responses to controversial questionnaire items and were later prompted to discuss the topics with their partner, who was actually a confederate. For two of the topics, the participants told the truth, whereas for the other two topics, the participants told lies. Moreover, there were seven verbal or nonverbal control conditions, which varied with respect to how the participants were seen and/heard (i.e., visual only, audio only, tone of voice only, etc.) by their "partner." In each of these conditions, the participants were told that only those portions would be recorded. The goal was to record the

participants' discussion so that raters could judge them on various aspects of their communication. Raters were not able to significantly differentiate between truth and lies. That is, the detection of deception was no better than chance (DePaulo et al., 1988).

In support of DePaulo et al. (1988)'s findings, subsequent researchers examined how control over a person's own behavior while lying does not improve the chances of detecting deception (Burgoon & Buller, 1994). While this research had quite similar goals to DePaulo et al. (1988)'s research, the deception paradigm was quite different. For example, Burgoon & Buller (1994) paired participants in either stranger dyads or familiar dyads. Within the dyads there was one interviewer and one interviewee. The interviewer was given instructions to probe for answers when signaled to do so by the researcher. Moreover, some of the interviewees were given information about the fact that everyone lies, whereas other interviewees were not given this information. At this point, the interviewee had a conversation with the interviewer. Subsequently, after the conversation concluded, the interviewer answered questions about the interviewee. Additionally, outside human raters also judged both participants' (i.e., the interviewer's and the interviewee's) verbal and nonverbal behaviors via taped conversation after the interaction took place.

Consistent with a wide range of deception detection research, the outside raters thought the interviewees, who had been prompted with the idea that everyone lies, were more likely to try to control their behavior than truth-tellers. However, those who tried to control their behavior ended up having less favorable ratings from the outside raters. Thus, their attempts to try to be more formal, restrained, docile, etc. actually backfired and they were more noticeable. However, this did not translate into higher accuracy of deception detection. In fact, deception detection accuracy on the part of the interviewers and the outside human raters was quite low (Burgoon &

Buller, 1994). This study provided further evidence that both receivers of deception and outside judges were rather poor at detecting deception, even when they notice differences in the deceivers' behaviors. The authors noted that this could have been due to underestimation of deception on the part of the interviewers and the outside human raters, as well as overestimation of deception on the part of the liar (Burgoon & Buller, 1994).

The research discussed so far suggests that neither motivation nor control increase detection of deception. Subsequent deception detection research examined the differences between laypersons' and experts' ability to detect deception. For instance, Burgoon, Buller, and Guerrero (1995) tested novices (i.e., laypersons) and experts in deception (i.e., military intelligence students). For this design, each group (i.e., novices and experts) was tested separately. In addition, similar to Burgoon & Buller (1994), an interviewer/interviewee design was used where the interviewee was instructed to tell the truth on the first two items of discussion, then lie about the rest of the items. The researchers found that there were no significant differences in accuracy of deception detection between the two types of participants. Thus the findings provided support that even people trained in detecting deception do not fare well with this kind of task (Burgoon et al., 1995).

Finally, researchers have also been interested in how planning versus spontaneous messages can affect deception detection. For example, Littlepage and Pineault (1984) first had participants serve as actors who either told the truth or lied about six topics and they were videotaped for future use. Additionally, some of the participants were given time to plan their responses and others were not. Next, a separate set of participants watched the videos of the first group and indicated if they were believable or not. The goal was to indicate belief for truthful messages and disbelief for untruthful messages. The results indicated that deceivers who had

time to plan their deceptive responses were believed more than the deceivers who provided spontaneous responses (Littlepage & Pineault, 1984). Thus, deceivers who planned their responses could be considered better at deceiving than those deceivers who were spontaneous with their responses.

Similarly, researchers also studied this issue of planned versus spontaneous deception by varying the message output between silent video, audio only, and transcript only (Littlepage, Tang, & Pineault, 1986). The greatest difference in accuracy of deceptive versus truthful messages was in the transcript condition (Littlepage et al., 1986). Thus people were less likely to accurately determine deceptive messages in this condition versus the other two. In addition, consistent with Littlepage and Pineault (1984)'s results, liars who planned their responses were more likely to be believed. Therefore, for the planned responses, liars' statements were harder to detect, whereas truthful statements were easier to detect. The authors suggest that planning lies allows for better control over nonverbal behavior, such as facial expression and body movement (Littlepage et al., 1986). These results suggest that within synchronous CMC, such as texting, it should be harder to detect deception in this modality versus face-to-face or audio (i.e., phone) modalities.

Detecting Computer-Mediated Deceptive Communication

A question that remains is, given the support for a lack of detection deception in non-CMC conditions and conversely the linguistic differences of deceptive and truthful CMC messages: are people able to detect deception of others while using CMC modalities? Several studies examined this question directly. For example, Newman et al. (2003) examined the linguistic differences of deceptive and truthful communication. The authors analyzed participants' responses using the LIWC software program and compared the LIWC results to

human raters to determine if the program could classify deception better than human judges. The researchers found that LIWC outperformed the human judges at classifying (i.e., detecting) deception. In addition, human judges were no better than chance at detecting deception (Newman et al., 2003).

Other researchers have examined whether human raters could detect deception from online dating profiles (Toma & Hancock, 2012). Two sets of participants were used for this study. First, online daters were recruited and they gave information to the researchers about how accurate their online dating profiles were. In a subsequent session, human raters judged whether or not the online daters were truthful and trustworthy. Simultaneously, LIWC was used to determine a score for deception. The results align with many other studies because LIWC detected deception more thoroughly than the human raters. In fact, the human raters were no better than chance at detecting deception (Toma & Hancock, 2012).

Boyle et al. (2008) examined text messaging and F2F interactions. These authors provided additional evidence that humans are poor at detecting deception. For example, these researchers used text messaging and F2F conditions to test if human raters could detect deception better for F2F interactions than text messaging interactions. Participants in the F2F condition were more confident in their ability to detect deception. Although, consistent with prior research, these more confident participants were actually no more likely to detect deception than the text messaging condition (Boyle et al., 2008). Additional support for the hypothesis that people are poor at detecting deception within CMC modalities came from Hancock et al. (2008), who demonstrated that linguistic differences (e.g., as analyzed by LIWC) were found between deceptive IM and non-deceptive IM. However, when human raters were asked to classify

deceptive versus non-deceptive IM messages, they were not able to detect the deception any better than chance.

Deceptive Communication and Relationships

The previous section provided adequate support that people are not very good at detecting deception. Additional research has examined how various attachment styles, relationship dynamics, and closeness influence deception. For example, secure, ambivalent, and anxious attachment styles of committed relationship partners have been studied to determine if these styles are associated with deception disclosures (i.e., telling a partner that he/she has previously lied; Jang, Smith, & Levine, 2002). The researchers found that securely attached individuals were more likely to talk about the deception after the disclosure, whereas, anxiously or ambivalently attached individuals were more likely to talk around the deception issues. Likewise, ambivalently attached individuals were most likely to avoid the conversation and their partner altogether after the deception disclosure was presented (Jang et al., 2002). Although Jang et al. (2002) did not examine deceptive detection, the study was important because it helps build the framework for relationships, and thus power dynamics (to be discussed in subsequent sections).

In a related set of two studies, researchers used relationally close same-sex friends and not exceptionally close same-sex friends to determine if (1) relational closeness could help people detect deception and (2) if outside raters could detect deception in each set of pairs (Anderson, DePaulo, & Ansfield, 2002). The results were intriguing because there was evidence that over time, the more relationally close a same-sex pair was the better they were able to detect deception. However, also notable for the present examination, the outside raters were no better than chance at detecting deception in either set of pairs (Anderson et al., 2002). The latter finding

is important for the current study because it provides evidence that outside raters are often poor at detecting deception in others.

Power and Deception

French and Raven (1956) provided the first typology of power, which consisted of five specific types of power: legitimate power (i.e., power that stems from a hierarchical role, such as a king or President of a country), coercive power (i.e., power that stems from someone mandating that the other social character complete an action), reward power (i.e., power that is somewhat reciprocal in the sense that one character does something for another, thus they can ask for favors or other things in exchange), referent power (i.e., power that comes from one character possessing personality characteristics or other qualities that the other character wishes to possess; in this way the sought after characteristics create the power differential), and expert power (i.e., power that stems from one character possessing skills or knowledge that the other character needs). Each of these forms of power stems from social aspects of relationships. If one character in the social dynamic has any of these abilities, personality characteristics, etc. they are thought to have power over the other character. In this sense, power, as defined by French and Raven (1956) can be viewed as a social dynamic process between two characters in one of these five forms.

Although power is one of the most fundamental dimensions of human social interaction (Berger, Cohen, & Zelditch, 1972), there has been relatively little research examining the role of power in deception. There is one study that examined how power dynamics can influence deception within employment situations. Oleklans and Smith (2009) assigned participants to either an employer role or an employee role with the task of negotiating eight points of an employment contract. One of these points was an indifferent point, which meant that there was

no loss or gain for the individual if the point was not agreed upon. This indifferent point was used to show deception. Power was manipulated in this design because one of the negotiators received more information about other possible employees or employers, and vice versa. In the high-power condition, there were multiple alternatives to the negotiation. Conversely, in the low-power condition, there were no alternatives. After transcribing the indifferent negotiation point, deception was coded as either active (i.e., outright lie) or passive (i.e., lie by omission). It was found that power differentials influence the use of deception within negotiations, because those in the high-power condition used more active deception than those in the low-power condition. While this study also does not directly examine deception detection, it does suggest a relationship between power and deception.

Subsequent employment research looked at how deceptive versus non-deceptive communication can influence power. This study used high-power, equal-power, and low-power statuses attributed to an application for employment paradigm and also used truthful versus deceptive conditions (Dunbar et al., 2014). These researchers determined that deception was used to facilitate power dynamics. In this study, participants were randomly assigned to be an owner, a co-owner, or an applicant for employment of a fictional bookstore. In order to assert power, the high-power (i.e., owner) and equal-power (i.e. co-owner) conditions were given additional information about the job description, whereas, the low-power (i.e., applicant) condition was not given this information. Half of the participants were told to be truthful, whereas, the other half of the participants were told to be somewhat deceptive. The results indicated that deception outweighed the power dynamics, such that deceivers asserted more dominance than either the high-power or equal-power truth-tellers. Likewise, in each of the power categories, deceivers successfully deceived others. Moreover, deceivers in the low-power

condition were even able to deceive those in both the high-power and equal-power conditions (Dunbar et al., 2014). These results strongly support the idea that deception plays a pivotal role in power dynamics.

Power dynamics and deception research has been extended somewhat by the use of alternative paradigms. In one such paradigm, an ultimatum bargaining game was used. In this paradigm, participants were told that they were receivers of money being given to them by an allocator (Koning et al., 2011). The money was in the form of chips and they were worth either \$1.00 or \$1.50, however, only the recipients knew how much each chip was worth. The recipients were given the choice to tell the allocators the truth (i.e., say the chips were worth twice what they were to the allocator) or they could deceive the allocator (i.e., say the chips were worth the same amount to both participants). Power was also manipulated as there were both high-power conditions and low-power conditions. The results showed that power influenced deception such that those in the low-power condition deceived their partner more than those in the high-power condition (Koning et al., 2011). This study suggests that power influences people's use of deception in bargaining situations.

To date, little research has been conducted examining power and deception in CMC. One exception is a study by Zhou et al. (2004) who predicted that there would be differences between deceivers and truth-tellers in the way they communicate with others during a desert survival task. In this task, participants have to determine what tools and goods are necessary for surviving in the desert if they were stranded there. The communication medium for this study was via online messaging. The communication senders would send messages in the evening, then the communication receivers would respond the following morning. Half of the dyads were explicitly told to deceive each other, while the other half were told to be truthful. Dominance

was a dependent measure in the study and was operationalized through the language used by the participants. The researchers found that deceivers, compared to truth-tellers, manipulated their dominance language more easily and more readily (Zhou et al., 2004). Implications of this study are that when people are trying to be deceptive, they may assert more dominance within the language they use.

Present Research

In sum, a long line of deception research shows that linguistic differences exist between deceptive and non-deceptive CMC, including texting. In addition, it has been demonstrated that people, overall, are poor at detecting deception, especially when the deception occurs in some form of CMC. However, there are many different types of deception, and it is not clear if these generalizations will hold for all types of deception. In this research I examined white lies. White lies are a very common form of lies that are other-oriented, in other words, lies that are meant to help rather than hurt the other person (DePaulo et al., 1996).

Goals of the Present Research

The goal of this two-part study was first to determine linguistic differences in white lie versus truthful text messages and how power interacts with these variables. The second goal of this two-part study was to determine if people can detect white lies in text messages and whether power dynamics influence the detection of white lies. Although French and Raven (1956) provided five types of power: legitimate, reward, coercive, referent, and expert; I defined power, specifically as resource allocation. In this way, the power differentials (high vs. equal) within the scenarios incorporated one character (i.e., parent, supervisor, or boss) as holding certain resources (i.e., money, food, job, or position) over the characters of low power. Those characters who are of equal power, did not hold these same resources over their equal counterparts. To test

this, a two-part study was conducted. Participants in Part 1 were asked to respond to a text message with either a white lie or a truthful response. Power was manipulated such that participants responded to someone of higher power than themselves for half of the scenarios and to someone of equal power for the other half of the scenarios. In Part 2, a new set of participants read responses generated by a participant in Part 1 and provide judgements regarding the truthfulness of each message.

Hypothesis 1

In terms of the hypotheses for Part 1 of the study, the linguistic differences between white lies and their truthful equivalents have not yet been examined, however, deception research has consistently found linguistic differences between deceivers and truth-tellers by using Linguistic Inquiry and Word Count (e.g., LIWC) to analyze the word content. Based on prior research (Hancock et al., 2004; Newman et al., 2003), I predicted that white lie text messages relative to truthful text messages would display significantly more words overall, more verbs, more negations, more negative emotion words, fewer self-references, and fewer first-person singular pronouns.

Hypothesis 2

In addition, linguistic differences associated with power dynamics in deception have not yet been tested within text messaging modalities. However, low-power individuals have been found to deceive more than high power individuals (Dunbar et al., 2014; Koning et al., 2011). Logically, there should be linguistic differences between equal-power liars and low-power liars because there is more cost involved when someone of low power lies to someone of high power. In this sense, the lie should be “stronger.” Therefore, I predicted that the linguistic differences

between white lie and truthful text messages would be greater in the high power condition than in the equal power condition.

Research Question 1

For Part 2 I was interested in the ability of outside raters to detect white lies. Previous research has shown that people are relatively poor at detecting deception (Burgoon & Buller, 1994; Burgoon et al., 1994; DePaulo et al., 1988), especially within CMC messages (Boyle et al., 2008; Newman et al., 2003; Toma & Hancock, 2012). However, the actual detection of white lies within CMC modalities has not been empirically tested. Therefore, the current research examined the following research question: Are outside raters able to detect white lie text messages as compared to truthful text messages better than chance?

Hypothesis 3

As far as how power impacts the detection of white lies, prior research has suggested that when liars are motivated to lie well, they are actually somewhat able to deceive others (Blair et al., 2010). Therefore, it seems that the deception toward high-power individuals would be more easily detected because of the motivation behind wanting to deceive well. This desire to want to deceive exceptionally well could be due to the resource power differentials that high-power individuals possess, where those of high power have some control over certain resources. Therefore, I predicted that outside raters would be able to detect the deception when a low-power individual tells a white lie to a high-power individual than when equal-power individuals tell white lies to each other.

Method

Part 1

Participants. Forty-six participants were used for Part 1 of the study. Participants came from the Introduction to Psychology Subject Pool. This is the best population to use because this age group is the second highest in rates of texting (Perkins et al., 2014). Participants received one research credit for their introductory psychology class. The ages of the participants ranged from 18 to 22 years old with an average of 18.98 ($SD = 1.07$). There were 17 males and 29 females. The majority of the sample identified as “White/Caucasian” (87%); while the remainder of the sample identified as 6.5% “Black,” 2.2% “East Asian,” 2.2% “Latino”, and 2.2% “Other.”

Materials. The materials for Part 1 consisted of eight scenarios (see Appendix A). Each scenario started with some background context of the fictitious scenario. There was a main character who “sends” the participants a text message and the participants were prompted to type into the computer the exact text message response that they would give to the main character, if the scenario were real. Thus, the scenario consisted of background context information, a text message “sent” from the main character, and lastly a prompt to respond to the text message from the main character.

The scenarios were manipulated by varying power dynamics, such that the participants responded to messages from characters of high-power for the other half of the responses, and from characters of equal-power for half of the responses. The responses were also manipulated by having the participants tell the truth for half of the responses or to tell a white lie for the other half of the responses. It was thus a 2 (high-power vs. equal-power) X 2 (white lie vs. truthful) within subjects factorial design. Booklets were made where each booklet had an equal number

of each power-truth combination, and across the experiment, an equal number of participants saw each version of each scenario.

Procedure. Upon arriving at the lab, participants were greeted by an experimenter and the participants filled out informed consent documents (See Appendix B). Participants were run in groups up to five and completed the entire study at a computer terminal.

Participants were told that they would be reading scenarios and would be responding to the character in the scenarios with a text message response. The participants were told that for some of the scenarios they would be asked to tell the truth and for others they would be asked to tell a white lie. White lies were defined for the participants with the following explanation: “White lies are common in every day interactions. These small lies are often not meant to hurt the receiver, rather oftentimes people tell these lies to actually help the other person.” The participants were told that they are going to imagine themselves in these scenarios and would be asked to respond in the appropriate manner. They were told there is no right or wrong answer, rather I am only interested in what they would say in the given scenario. They were also told that they would be answering a question about the truthfulness of their text message response. Lastly, they were told that they would have two practice trials before the study would begin in case they had questions about the procedures. (For full instructions, refer to Appendix C.)

Participants started by completing two practice trial scenarios, one with a truthful response and one with a white lie response. They were encouraged to ask questions during this trial scenario. After they completed the practice trial, I went to each participant and asked explicitly if they had any questions. Once they were comfortable with the procedures, the study began.

Participants read eight various real life scenarios, which were randomized for each participant. Each scenario started by giving background information, and then the participants read a text message which came from the character in the scenario. Participants typed a response to the character's text message with either a white lie or a truthful response (e.g., each scenario received one response and the type of response was varied randomly). The participants responded as if they were sending a text message. Following a similar procedure to Hancock et al. (2010), after each scenario, participants were asked to review their text message response, then answer a question regarding the truthfulness of their response. Specifically, the participant was asked to rate, on a scale of 0–10, their truthfulness of their text message response, with 0 representing “not at all truthful,” 5 representing the midpoint, and 10 representing “completely truthful.” This question was asked for both truthful and white lie responses. This question served both as a manipulation check and as the measure by which I gauged accuracy.

After reading and responding to all scenarios, participants filled out demographic information, including age, gender, and ethnicity. Additionally, they were asked, “Please estimate how often you text (in times per day).” Participants then were asked if they had any questions and were thanked for their time.

Linguistic Inquiry and Word Count (LIWC)

The Part 1 text messages were entered into the Linguistic Inquiry and Word Count (LIWC) software program (Pennebaker, Booth, Boyd, & Francis, 2015). LIWC works by having the researcher enter any set of text (e.g., book segments, essays, emails, text messages, etc.), then the program counts the percentage of words that make up various parts of psychological processes (e.g., emotions) and parts of speech (e.g., pronouns, verbs, etc.). However, the category of Word Count simply produces how many words are in that set of text. LIWC 2015

uses a dictionary of approximately 6,400 words, which are organized into 92 hierarchical categories, or subdictionaries. The words in these subdictionaries are viewed by judges who agree about which words should go into which category; these judges agree 93-100% of the time. The 2015 version of LIWC is sensitive to parts of text messages, such as slang terms and abbreviations. It was designed to help researchers to analyze shorter versions of text. For example, the best dataset for LIWC 2015 would average below 100 words (Pennebaker et al., 2015). Thus, LIWC 2015 is a good tool to analyze text messages.

Part 2

Participants. Due to using a yoked design, there was also forty-six participants for Part 2 of the study. Participants were drawn from the Introductory Psychology Subject Pool. For the same reasons as Part 1, college students from the Introductory to Psychology Subject Pool were used for Part 2. Participants again received one research credit for their introductory psychology class. The ages of participants ranged from 18-22 years old and the average age was 19.41 ($SD = 1.12$). There were 12 males and 34 females in the sample. The majority of the sample identified as “White/Caucasian” (78.3%), while the rest of the sample identified as 10.9% “Black,” 2.2% “East Asian,” 2.2% “Latino,” and 2.2% “South East Asian.”

Materials. Materials for Part 2 consisted of the same eight scenarios as Part 1. However, included in Part 2 was the responses from the participants from Part 1. In order to use a yoked design, each participant in Part 2 read eight responses (i.e., one response for each scenario) from one subject in Part 1.

Procedure. Upon arriving at the lab, participants were greeted by an experimenter and the participants filled out informed consent documents (see Appendix D). Participants were run in groups up to five and completed the entire study at a computer terminal.

Participants were told that the purpose of this experiment was to detect deceptive text messages. Participants were told that they were going to read scenarios, which include a text message from the character in the scenario to a previous participant. They were also told that they would then read the text message response from the previous participant to the character from the scenario. They then were told that some of these responses were truthful, whereas others were white lies. Just like in Part 1, white lies were defined for the participants by the following explanation: “White lies are common in every day interactions. These small lies are often not meant to hurt the receiver, rather oftentimes people tell these lies to actually help the other person.” Participants were then told to answer five questions about each scenario. Lastly, participants were told that they would complete two practice trial scenarios and would be encouraged to ask questions during these practice trial scenarios.

Similar to Part 1, participants completed the practice trial first and asked any questions about the procedure that they had. After they completed the practice trial, I went to each participant and asked explicitly if they have any questions. Once they were comfortable with the procedures, the study began.

Participants read eight various real life scenarios, which were randomized for each participant. Each scenario started by giving background information, then the participants read a text message which came from the main character in the scenario, and last they read the text message response from the previous participant to the character in the scenario.

Finally, the participants responded to each of the scenarios by answering five questions. In line with Hancock et al. (2010), participants first reviewed the text message response from the participant in Part 1 and were asked to rate their perception of the truthfulness of the text message response. Specifically, the participant in Part 2 was asked to describe, on a scale of 0–

10, their perception of the truthfulness of the text message response of the participant from Part 1 with 0 representing “not at all truthful,” 5 representing the midpoint, and 10 representing “completely truthful.” Next, participants were asked, “On a scale of 1-7, how confident are you in your judgement of your response to the truthfulness of the question?” The participants were also asked, “On a scale of 1-7, how believable would this text message be to the recipient in the scenario?” In order to provide evidence for past research about white lies being non-hurtful and actually somewhat helpful (DePaulo & Kashy, 1998), two additional questions asked: “On a scale of 1-7, how much do you consider this person’s text message response to be hurtful to the receiver?” and “On a scale of 1-7, how much do you consider this person’s text message response to be helpful to the receiver?”

After reading and responding to all eight scenarios, participants filled out demographic information, including age, gender, and ethnicity. Additionally, they were asked, “Please estimate how often you text (in times per day).” Participants were then asked if they have any questions and were thanked for their time.

Results

Part 1 Analyses

To serve as a manipulation check, participants were asked to rate each of their text message responses on a truthfulness scale. I analyzed the truthfulness dependent variable of Part 1 with a 2 (truth vs. lie) X 2 (high power vs. equal power) ANOVA. There was a main effect for Truth vs. Lie $F(1, 45) = 61.09, p < .01$, such that truthful responses were judged more truthful ($M = 6.55, SD = 3.68$) than lie responses ($M = 6.21, SD = 3.83$). Therefore, this finding confirms that participants were able to provide both truthful and lie responses that differed significantly.

The main effect for Power was not significant ($p > .05$) and there was not a significant interaction ($p > .05$).

The research questions involved in Part 1 of the study were (1) how do white lies differ from non-white lies, and (2) does this difference vary as a function of power? In order to analyze the results of the first research question, I conducted LIWC analyses to determine if there were linguistic differences between the truthful and the white lie text messages. The dependent variables for this analysis were the LIWC categories and the independent variables were the power dimension and the truthful vs. white lie dimension. It was predicted that when prompted to produce white lie deceptive text messages, participants would use significantly more words overall, more verbs, more negations, more negative emotion words, fewer self-references, and fewer first-person singular pronouns than participants who were prompted to produce truthful responses. I conducted a 2 (high-power vs. equal-power) X 2 (truthful vs. white lie) ANOVA for each of these categories.

For the LIWC category of Word Count, there was a significant main effect for Lie vs. Truth, $F(1, 45) = 22.72, p < .01$, with truthful responses ($M = 18.68, SD = 9.15$) containing more words than lie responses ($M = 15.01, SD = 7.41$). The main effect for Power was not significant ($p > .05$). Additionally, there was not a significant interaction ($p > .05$). For the LIWC category of Negations, there was a significant main effect for Lie vs. Truth, $F(1, 45) = 5.80, p < .03$, with lie responses ($M = 5.66, SD = 7.17$) containing more negations than truthful responses ($M = 4.16, SD = 5.64$). The main effect for Power was not significant ($p > .05$) and there was not a significant interaction ($p > .05$). None of the other hypothesized LIWC categories reached significance. See Table 1 for the means and standard deviations for each of the dependent

variables as a function of Truth vs. Lie and Power. See Table 2 for the presentation of F statistics.

Part 2 Analyses

The research questions for the Part 2 analyses consisted of (1) can white lies be detected by outside raters better than chance, and (2) if people can detect white lie deception better than chance, then does this vary as a function of power?

To test these research questions I conducted a 2 (high-power vs. equal power) X 2 (truthful vs. white lie) ANOVA with the Truthfulness judgments made by the Part 2 participants as the dependent variable. For this measure, there was a significant main effect for Lie vs. Truth, $F(1, 45) = 61.09, p < .01$, with truthful responses ($M = 7.84, SD = 3.47$) being rated as more truthful than lie responses ($M = 4.92, SD = 3.46$). Therefore, participants in Part 2 were able to detect the deception. The main effect for power was not significant ($p > .05$) and the power by truthfulness interaction was not significant ($p > .05$). Hence, speaker power was not related to participants' ability to detect white lies.

Last, I analyzed the other four measures (i.e., confidence, believability, hurtful, and helpful) with a 2 (high-power vs. equal-power) X 2 (truthful vs. white lie) ANOVA. For the Believable dependent variable, there was a significant main effect for Lie vs. Truth, $F(1, 45) = 4.80, p < .04$, with truthful responses ($M = 5.58, SD = 1.62$) being rated as more believable than lie responses ($M = 5.20, SD = 1.58$). For the Hurtful dependent variable, there was a significant main effect for Lie vs. Truth, $F(1, 45) = 11.77, p < .01$, with truthful responses ($M = 3.50, SD = 1.95$) being more hurtful than lie responses ($M = 2.79, SD = 1.68$). Finally for the Helpful dependent variable, there was a significant main effect for Lie vs. Truth, $F(1, 45) = 13.12, p < .01$, with truthful responses ($M = 4.09, SD = 2.04$) being rated as more helpful than lie responses

($M = 3.27$, $SD = 2.04$). The only dependent variable in this set of questions that was not significant was Confidence ($p > .05$). Additionally, none of the main effects for Power were significant ($p > .05$) and none of the Lie vs. Truth by Power interactions were significant ($p > .05$). See Table 3 for the means of these five dependent variables. See Table 4 for the F statistics for these five dependent variables.

Discussion

Previous deception research has demonstrated linguistic differences between truthful and deceptive CMC messages. Moreover, deception research has shown that people are relatively poor at detecting deception (Burgoon & Buller, 1994; Burgoon et al., 1995; DePaulo et al., 1988), especially within CMC modalities (Boyle et al., 2008; Newman et al., 2003; Toma & Hancock, 2012)). Deceptive communication encompasses approximately one-fifth of human interactions (Hancock et al., 2008), thus the study of everyday lies is important (DePaulo & Kashy, 1998; DePaulo et al., 1996). One such form of everyday deceptive communication are ‘little lies’ or what are commonly referred to as white lies, which have been shown to be somewhat different than other forms of deception (DePaulo et al., 1996).

For example, DePaulo et al. (1996) described how everyday lies that people told were not distressing to the liar. Furthermore, the participants in that study said that overwhelmingly if they were in the same situation, they would tell the same lie again. Lastly, these little lies were usually said in order to help the other person, which can be described as other-oriented lies (DePaulo et al., 1996). An example of an everyday lie that would be meant to help another person would be if a daughter told her mother that she loved her dress and that it was flattering, when in reality it was not. This example shows that the daughter was trying to preserve her relationship with her mother and to build her mother’s confidence. In this manner, the lie is very

different from a more self-centered lie that a daughter could tell her mother (e.g., “I was home by nine” when in reality she was home much later). Thus, the findings from DePaulo et al. (1996) support the idea that white lies are different than other forms of lying because rather than having malicious intent, everyday white lies usually serve to help the receiver of the lie and are typically not distressing to the liar.

The current research sought to expand the research on these differences by investigating white lies in the form of text messages. The first goal of this study was to determine if there would be linguistic differences between white lie text messages and truthful text messages and to determine how power might interact with these messages. The second goal was to investigate if people would be able to detect white lies in text messages and whether power dynamics influence the detection of white lies. I conducted a two-part study to investigate these issues. Participants in Part 1 were asked to respond to a text message with either a white lie or a truthful response. Power was also manipulated by having participants respond to someone of equal power for half of the scenarios and high power for the other half of the scenarios. A new set of participants in Part 2 read the responses generated by a participant in Part 1 and provided judgements regarding the truthfulness of each message.

In Part 1, significant linguistic differences between white lie and truthful messages were found for word count and for negations. In contrast to previous research (Hancock et al., 2008; Zhou et al., 2004), in the current study, truthful messages contained more words overall than the white lie messages. While this result may be somewhat counterintuitive, it could possibly be explained because people may respond with more words for truthful responses. This could be due to the fact within the present study all of the scenarios that participants responded to were set up such that the white lie condition would prompt a positive response and the truthful condition

would prompt a negative response. I set up the scenarios this way because it seemed that people typically tell white lies when prompted with a negative situation. Hence, the truthful responses could have more words because the respondent was trying to soften their response. For example, if someone had a very bad hair style and asked a friend if it looked okay and the friend was expected to tell the truth, then the friend might say something like, “You’re hair does not look great, but your outfit is wonderful!” In this way, it might take more words to soften the truth (e.g., with the additional clause) than if that friend told a white lie and just said something like, “It’s great!” Further research would need to be conducted on white lie CMC to see if this is a common trend.

The results for negations were in the same direction as previous research (Toma & Hancock, 2012) such that white lie responses produced more negations than truthful responses. This finding helps support the idea that lies in general, including white lies, are more potentially negatively worded. None of the other previously found linguistic differences were replicated in this study. The finding of word count being in the opposite direction of previous research and that none of the other linguistic categories were significantly different is consistent with the claim of DePaulo et al. (1996) that white lie deception is different than other forms of deception. The present findings provide support for this idea by showing that the previously found linguistic differences do not hold up within white lie deception.

In Part 2 of this study, participants were actually quite good at detecting deception, and they were not significantly more confident with their detection decisions. Both of these results conflict with previous work in CMC deception detection research, which has shown that typically people are poor at detecting deception (Toma & Hancock, 2012) and are typically quite confident in their ability to detect deception (Boyle et al., 2008). Therefore, this portion of the

research provides additional support for the idea that white lies are in fact different from other more traditional forms of deception.

Another surprising finding was that participants in Part 2 rated the truthful responses as more helpful than the white lie responses. DePaulo et al. (1996) suggested that white lies were actually more helpful than truthful responses. However, that study used a diary study methodology where participants recorded their white lies for several days and they also rated their lies on a number of variables; one variable was how helpful the participant thought their white lie was to the other person. Conversely, in the present study, participants in Part 2 were outside raters who judged the text message responses as more helpful when the response was a truth than when it was a white lie. Hence, when liars tell white lies, they consider it to be helpful to the other person (DePaulo et al., 1996); however, when outside raters judge these messages, they actually think that truthful messages are more helpful than white lie responses. This difference in finding could be equated to which perspective the judgement is coming from: the actual liar versus an outside rater. Therefore, people who are telling white lies seem to think they are helping the recipient; however, it could be that they are actually not helping them. Future research should be conducted to determine whether the actual recipient of the white lie views them as helpful or hurtful.

The power manipulation for both Part 1 and Part 2 was not significant. It is possible that within white lie deception, power may not play an important role. Alternatively, it could be that the power manipulation was not strong enough in the current study. Within the scenarios, there were at least three different kinds of hierarchical power: family, organizational, and friend. These varying kinds of power might have confounded the power manipulation. While the current study was not able to analyze these differences, future research could divide the scenarios into specific

hierarchical types of power. For example, a study could just look at organizational-type scenarios. Another suggestion would be for other researchers to adhere more closely to the French and Raven (1956) power typology and only have scenarios that involve one of those types at a time or to compare the different types within the same study.

It should be noted, however, that at least one study somewhat demonstrated that power could impact CMC deceptive messages. For example, Zhou et al. (2004) demonstrated that power, in the form of dominant language, influenced the detection of deceptive CMC messages. In that study, deceivers used more dominant language than truth-tellers. However, it should be noted that the dominant language inferred power, rather than being directly about power, as well as dominant language was not manipulated (Zhou et al., 2004). Therefore, while Zhou et al. (2004) was a good initial investigation into power, CMC, and deception; the current results went further by manipulating power and deception. Thus, this direct manipulation could explain the current results. For future research, it would be important to try to determine if there really is a relationship between power and white lie deception.

Limitations and Future Directions

Aside from some of the previously mentioned limitations of this research, perhaps the main limitation of this study is the small sample size of only 46 participants in each sample. However, generalizations can probably be made since there were eight randomly presented scenarios. Future research could use a larger sample to determine if these results replicate. Additionally, it would be helpful to have a more diverse sample, considering the current sample was largely female, Caucasian, undergraduate students. It would be important to examine CMC white lie deception in a more diverse sample because people from different ethnic culture, SES, age, and gender backgrounds could potentially view white lie deception differently. While my

research provided evidence that white lies differ both linguistically and in terms of detectability, perhaps various groups of people are either better or worse at detecting white lies.

One specific future direction would be to examine other relational dynamics aside from power to see if those other relational dynamics influence white lies. While the current research did not find that power, specifically, influenced linguistic differences or detection of white lies, it could be that other relational dynamics might actually influence these constructs. Additionally, it would be quite interesting to compare white lie deception, which is typically seen as more other-orientated, to more self-centered, overt deception. This research line would help strength the claims that are presented here, which state that these forms of deception are unique and different. Additionally, with the surge of dating apps like Tindr and Grindr, researchers should extend CMC deception research to investigate how deception through these applications is used. Moreover, researchers could investigate which form of deception is being used: overt forms or subtler, white lies. Lastly, an inherent research question still exists in this white lie research. Is it the situation in which people tell white lies or is it the actual content of the white lie messages that cause linguistic differences and detection of this form of deception? Future research should try to parse out this lingering research question.

Conclusion

A large amount of research has shown that there seem to be linguistic differences between deceptive and non-deceptive CMC messages, and that people are typically poor at detecting this form of deception. However, the current study has shown that there may be different forms of deception. One such form is white lies, which has shown to be linguistically different from and more easily detected than other forms of lies.

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Table 1

Means and Standard Deviations of Part 1 Predicted Variables (LIWC Categories)

Variable	White		Lie		Truth	
	High	Equal	Mean	High	Equal	Mean
	Power	Power	(SD)	Power	Power	(SD)
Word	15.65	14.36	15.01	18.46	18.90	18.68
Count*	(7.79)	(7.00)	(7.41)	(8.20)	(10.04)	(9.15)
Negations*	5.80	5.51	5.66	3.75	4.56	4.16
	(7.19)	(7.18)	(7.18)	(5.13)	(6.10)	(5.64)
Verbs	26.20	25.50	25.85	25.80	25.86	25.83
	(9.31)	(10.02)	(9.65)	(8.96)	(9.60)	(9.26)
Negative	2.35	3.42	2.90	3.30	3.02	3.16
Emotion	(4.77)	(6.80)	(5.88)	(4.88)	(4.81)	(4.83)
Self-	9.70	8.52	9.11	8.46	9.23	8.84
References	(6.19)	(6.30)	(6.26)	(6.14)	(6.60)	(6.37)
Personal	16.87	16.37	16.62	16.67	17.50	16.93
Pronouns	(7.82)	(7.75)	(7.77)	(7.44)	(6.54)	(7.01)

*Significant at $p < .05$.

Table 2

Part 1 F Statistics of Predicted Variables (LIWC Categories)

Variable	Truth/Lie	Equal/High Power	Truth/Lie X Power
	<i>df</i> = 1, 45	<i>df</i> = 1, 45	<i>df</i> = 1, 45
Word Count	$F = 22.72^*$	$F = .37$	$F = 2.32$
Negations	$F = 5.83^*$	$F = .11$	$F = 1.09$
Verbs	$F = .00$	$F = .12$	$F = .18$
Negative Emotion	$F = .21$	$F = .46$	$F = 1.86$
Self-References	$F = .19$	$F = .07$	$F = 2.29$
Personal Pronouns	$F = .21$	$F = .18$	$F = 1.09$

*Significant at $p < .05$.

Table 3

Means and Standard Deviations of Part 2 Dependent Variables

Variable	White		Lie		Truth	
	High	Equal	Mean	High	Equal	Mean
	Power	Power	(SD)	Power	Power	(SD)
Truthfulness*	5.02	4.82	4.92	8.08	7.60	7.84
	(3.26)	(3.66)	(3.46)	(3.44)	(3.50)	(3.47)
Believable*	5.21	5.20	5.20	5.68	5.48	5.58
	(1.54)	(1.62)	(1.58)	(1.49)	(1.75)	(1.62)
Hurtful*	2.76	2.83	2.79	3.54	3.46	3.50
	(1.65)	(1.72)	(1.68)	(1.88)	(2.02)	(1.94)
Helpful*	3.24	3.30	3.27	4.32	3.87	4.09
	(2.02)	(2.07)	(2.04)	(1.93)	(2.12)	(2.04)
Confidence	6.08	5.92	6.00	6.10	6.21	6.15
	(1.41)	(1.46)	(1.31)	(1.28)	(1.10)	(1.91)

*Significant at $p < .05$.

Table 4

F Statistics of Part 2 Dependent Variables

Variable	Truth/Lie	Equal/High Power	Truth/Lie X Power
	$df = 1, 45$	$df = 1, 45$	$df = 1, 45$
Truthfulness	$F = 61.09^*$	$F = .73$	$F = .13$
Believable	$F = 4.80^*$	$F = .47$	$F = .37$
Hurtful	$F = 11.77^*$	$F = .00$	$F = .23$
Helpful	$F = 13.01^*$	$F = .83$	$F = 1.56$
Confidence	$F = 1.10$	$F = .04$	$F = 1.18$

*Significant at $p < .05$.

Appendix A. Scenarios.

PRACTICE SCENARIO

Your boss planned a medium-sized event for some “big-wig” new clients. You attended the event and things did not go quite as planned. One hour after the event ended, your boss texts you the following message: “Wasn’t that event great? I think we really made a good impression on the clients!”

--Please type into the computer what you would say in a text message in response to this person.

--Respond in a white lie manner.

Your friend asked you to hang out one day for a TV show binge session. However, you really have been trying to avoid that friend so you say you can’t make it because you are busy. One day after you should have hung out, your friend texts you the following message: “How are you doing? I ended up not watching the binge session of the show we were going to watch, want to watch it sometime later?”

--Please type into the computer what you would say in a text message in response to this person.

--Respond in a truthful manner.

Scenario 1:

Your sibling (parent) looked terrible at a family event and seemed exhausted through the entire event. One hour after the event, your sibling (parent) texts you the following message: “Did I look terrible today? I hope I didn’t make a bad impression!”

--Please type into the computer what you would say in a text message in response to this person.

--Respond in a truthful manner.

--Respond in a white lie manner.

Scenario 2:

Your friend (parent) made you dinner one night. However, the meal was not very good and rather bland. One hour after you get home, your friend (parent) texts you the following message: “What did you think of my new recipe? I worked really hard to make you a great dinner!”

--Please type into the computer what you would say in a text message in response to this person.

--Respond in a truthful manner.

--Respond in a white lie manner.

Scenario 3:

Your acquaintance (supervisor) invites you to lunch to celebrate your birthday. He or she has told you multiple times that he or she is excited to give you your gift. Upon opening the gift, you realize that the gift is nothing to be excited about. One hour after getting home, your

acquaintance (superior) texts you the following message: “What did you think about the awesome gift? I am so excited for you to have it!”

--Please type into the computer what you would say in a text message in response to this person.

--Respond in a white lie manner

--Respond in a truthful manner.

Scenario 4:

Your co-worker (boss) asks you to spend time together over the upcoming weekend, but you have other plans with someone else. You feel bad because you haven’t wanted to see your co-worker (boss) in quite some time. One hour after your alternative plans take place, your co-worker (boss) texts you the following message: “How did your weekend work out? I hope we can get together soon!”

--Please type into the computer what you would say in a text message in response to this person.

--Respond in a white lie manner.

--Respond in a truthful manner.

Scenario 5:

Your boss (sibling) told you to do something that you do not think is appropriate. So, you decide not to do it. One hour later, your boss (sibling) texts you the following message: “Were you able to get the task done? I really hope so because it was important!”

--Please type into the computer what you would say in a text message in response to this person.

--Respond in a truthful manner.

--Respond in a white lie manner.

Scenario 6:

Your parent (friend) met you for coffee and he or she was incredibly mean and rude. This was out of character for him or her. One hour after you get home, your parent (friend) texts you the following message: “Did you think I was rude today? I am really sorry if I was!”

--Please type into the computer what you would say in a text message in response to this person.

--Respond in a truthful manner.

--Respond in a white lie manner.

Scenario 7:

Your supervisor (acquaintance) made plans with you to spend time together one evening. At the last minute, you cancel because you hate spending one-on-one time with him or her, but you tell your supervisor (acquaintance) it is because you aren’t feeling well. One hour after you should

have showed up, your supervisor (acquaintance) texts you the following message: “How are you feeling? I hope we get to spend time together soon!”

--Please type into the computer what you would say in a text message in response to this person.

--Respond in a white lie manner.

--Respond in a truthful manner.

Scenario 8:

Your boss (co-worker) met with you for the fifth time this week. You are somewhat annoyed by how needy he or she has been lately and how much of your time he or she is taking up. One hour after meeting, your boss (co-worker) texts you the following message: “Does it bother you that I take so much of your time? I promise to be less needy in the future!”

--Please type into the computer what you would say in a text message in response to this person.

--Respond in a white lie manner.

--Respond in a truthful manner.

Appendix B. Informed Consent Form.

Study Title: Text Messaging Study 1.

Study Purpose and Rationale

The purpose of this study is to see how people respond via text messages. This research may help future researchers understand text messaging better.

Inclusion/Exclusion Criteria

To be eligible to participate in this study, you must be between the ages of 18 and 99.

Participation Procedures and Duration

For this study, you will be asked to imagine yourself in different situations and to indicate how you would reply to a text message sent from another person. Sometimes you will be asked to provide a truthful message, other times to tell a white lie. You will also be asked to provide some demographic information. The study should not last more than one hour.

Data Confidentiality

All data will be maintained as anonymous and no identifying information such as names will appear in any publication or presentation of the data.

Storage of Data

Electronic data will be collected and stored on the researcher's password-protected computer for five years and then deleted. Only the research team will have access to the data.

Risks or Discomforts

The only anticipated risk from participating in this study is that you might feel uncomfortable providing some of the responses because some ask you to tell a white lie. You may choose not to answer any question that makes you uncomfortable and you may quit the study at any time without any penalties.

Who to Contact Should You Experience Any Negative Effects from Participating in this Study

Should you experience any feelings of anxiety, there are counseling services available to you through the Ball State Counseling Center in Muncie, (765) 285-1736.

Benefits

There are no perceived benefits for participating in this study.

Voluntary Participation

Your participation in this study is completely voluntary and you are free to withdraw your permission at any time for any reason without penalty or prejudice from the investigator. Please feel free to ask any questions of the investigator before signing this form and at any time during the study.

IRB Contact Information

For one's rights as a research subject, you may contact the following: For questions about your rights as a research subject, please contact the Director, Office of Research Integrity, Ball State University, Muncie, IN 47306, (765) 285-5070 or at irb@bsu.edu.

Researcher Contact Information

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Appendix C. Instructions.

Part 1 Instructions:

In this study we are examining how people say things in different situations. To do this, you will read brief descriptions of situations involving two people. You are to imagine that you are one of the people in a situation, and that the other person in the situation has sent you a text message. You are then to indicate how you would respond to this message. Then you will be asked to describe, on a scale of 0–10, the truthfulness of your text message response, with 0 representing “not at all truthful,” 5 representing the midpoint, and 10 representing “completely truthful.”

For half of these situations, you will be asked to respond in a truthful manner, that is, your message should reflect what you actually believe. For the other scenarios you should respond with a “white lie”. By white lie we mean that your response should not be entirely accurate or truthful. White lies are common in every day interactions. These small lies are often not meant to hurt the receiver, rather oftentimes people tell these lies to actually help the other person.

There are no right or wrong answers for this task. We simply want to find out what people tend to say in these situations.

You will begin with two practice scenarios. If you have any questions, or if anything is not clear, you should ask the experimenter before beginning the actual trials. When you are finished with the practice scenario, please notify the researcher and she will come make sure your questions are answered.

Part 2 Instructions:

The purpose of this study is to examine how people judge the truthfulness of text messages. To do this, you will read brief descriptions of situations involving two people. One person in each situation sends a text message to the other person, and the other person then replies. Some of these text messages were truthful and some of them were white lies (i.e. responses that are small lies and hence not entirely truthful or accurate).

After you read each scenario, you will rate, on a scale of 0–10, what is your perception of the truthfulness of the text message response with 0 representing “not at all truthful,” 5 representing the midpoint, and 10 representing “completely truthful.” Next, you will answer the following question: “On a scale of 1-7, how confident are you in your judgement of your response to the truthfulness of the question?” You will also answer this question: “On a scale of 1-7, how believable would this text message be to the recipient in the scenario?” Lastly there will be two questions that you will answer: “On a scale of 1-7, how much do you consider this person’s text message response to be hurtful to the receiver?” and “On a scale of 1-7, how much do you consider this person’s text message response to be helpful to the receiver?” Each of these questions will be in reference to the text message responses given by the participant in the other study.

You will begin with two practice scenarios. While you can ask questions anytime during the study, it is imperative that you ask any questions you have during this practice scenario. When

you are finished with the practice scenario, please notify the researcher and she will come make sure your questions are answered.

Appendix D. Informed Consent Form Part 2.

Study Title: Text Messaging Study 2.

Study Purpose and Rationale

The purpose of this study is to see how people perceive others text messages. This research may help future researchers understand text messaging better.

Inclusion/Exclusion Criteria

To be eligible to participate in this study, you must be between the ages of 18 and 99. To be eligible, you could not have participated in Text Messaging Study 1.

Participation Procedures and Duration

In this study, you will read and rate text messages created by another student. Lastly, you will respond to some demographic questions. The study should not last more than one hour.

Data Confidentiality

All data will be maintained as anonymous and no identifying information such as names will appear in any publication or presentation of the data.

Storage of Data

Electronic data will be collected and stored on the researcher's password-protected computer for 5 years and then deleted. Only the research team will have access to the data.

Risks or Discomforts

The only anticipated risk from participating in this study is that you may not feel comfortable answering some of the questions. You may choose not to answer any question that makes you uncomfortable and you may quit the study at any time without any penalties.

Who to Contact Should You Experience Any Negative Effects from Participating in this Study

Should you experience any feelings of anxiety, there are counseling services available to you through the Ball State Counseling Center in Muncie, (765) 285-1736.

Benefits

There are no perceived benefits for participating in this study.

Voluntary Participation

Your participation in this study is completely voluntary and you are free to withdraw your permission at any time for any reason without penalty or prejudice from the investigator. Please feel free to ask any questions of the investigator before signing this form and at any time during the study.

IRB Contact Information

For one's rights as a research subject, you may contact the following: For questions about your rights as a research subject, please contact the Director, Office of Research Integrity, Ball State University, Muncie, IN 47306, (765) 285-5070 or at irb@bsu.edu.

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Appendix E. Questions that Participants will Answer.

Part 1 Question:

The question below will follow each text message response entry.

1. On a scale of 1-10, how truthful was your text message response? (0 = *not at all truthful*, and 10 = *completely truthful*).

Part 2 Questions:

Each of the questions below will follow every text message response that was generated in Part 1.

1. On a scale of 1-10, what is your perception of the truthfulness of the text message response? (0 = *not at all truthful*, and 10 = *completely truthful*).
2. On a scale of 1-7, how confident are you in your judgement of your response to the truthfulness of the question? (1 = *not at all confident*, and 7 = *completely confident*).
3. On a scale of 1-7, how believable would this text message be to the recipient in the scenario? (1 = *not at all believable*, and 7 = *completely believable*).
4. On a scale of 1-7, how much do you consider this person's text message response to be hurtful to the receiver? (1 = *not at all hurtful*, and 7 = *completely hurtful*).
5. On a scale of 1-7, how much do you consider this person's text message response to be helpful to the receiver? (1 = *not at all helpful*, and 7 = *completely helpful*).